METHODS AND APPARATUS TO SELECTIVELY POWER FUNCTIONAL UNITS

ABSTRACT

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A processing engine fetches one or more lines of software instructions into an instruction cache. Based on the contents of the cache, potentially needed functional units are identified as functional units that are operable to execute at least one software instruction stored within the instruction cache. Unneeded functional

10   units are identified as functional units that are not operable to execute a software instruction stored within the instruction cache. A power increase is initiated for selected ones of the potentially needed functional units that are determined to be in a ·low power state. A power decrease is initiated for selected ones of the unneeded functional units that are determined to be in an operable power state.